

**To:** Hoke, John[john.hoke@dnr.mo.gov]  
**From:** Robichaud, Jeffery  
**Sent:** Mon 9/21/2015 6:49:35 PM  
**Subject:** RE: regression calculations for Missouri nutrient criteria

Might be tough to try for this week then but I will see what I can rustle up...any chance someone found the paired microcystin and chlorophyll a spreadsheet? I sent something to Jennifer Graham but she hasn't gotten back with me yet. Also want to make sure it is raw and not just means.

Thanks John

Jeffery Robichaud

Deputy Director, Water Wetlands and Pesticides Division

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**From:** Hoke, John [mailto:john.hoke@dnr.mo.gov]  
**Sent:** Sunday, September 20, 2015 9:14 AM  
**To:** Robichaud, Jeffery  
**Subject:** RE: regression calculations for Missouri nutrient criteria

Thursday afternoon from 1 pm on is open at the moment. Friday is the nutrient trading workshop so it's pretty much full. Wednesday afternoon is also free. Thanks

John Hoke  
Chief, Watershed Protection Section  
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**From:** Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]  
**Sent:** Friday, September 18, 2015 4:49 PM  
**To:** Hoke, John  
**Subject:** RE: regression calculations for Missouri nutrient criteria

Thanks John...I've got the studies, they just don't contain the base data...if Mark can find that would be awesome...otherwise maybe I can get from Jennifer next week.

Thanks again. What does your Thursday/Friday look like? It might be worth me taking a trip down there to chat with you one on one rather than trying to do stuff over the phone

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**From:** Hoke, John [mailto:john.hoke@dnr.mo.gov]  
**Sent:** Friday, September 18, 2015 4:38 PM  
**To:** Robichaud, Jeffery  
**Subject:** RE: regression calculations for Missouri nutrient criteria

Info in the spreadsheet is on chl-a, TN, TP and regression analyses. Microcystin stuff was from literature I believe.

We should have that data, but I can't recall if that was in the spreadsheets.

Graham, J., & Jones, J. (2009). Microcystin in Missouri Reservoirs. *Lake and Reservoir Management*, 25:3 253-263.

Graham, J., Jones, J., Jones, S., Downing, J., & Clevenger, T. (2004). Environmental factors influencing microcystin distribution and concentration in the Midwestern United States. *Water Research*, 38(2004)4395-4404.

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**From:** Robichaud, Jeffery [<mailto:Robichaud.Jeffery@epa.gov>]

**Sent:** Friday, September 18, 2015 4:34 PM

**To:** Hoke, John

**Subject:** RE: regression calculations for Missouri nutrient criteria

Before I dig too deep...is the microcystin stuff in here?

Jeffery Robichaud

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**From:** Hoke, John [<mailto:john.hoke@dnr.mo.gov>]  
**Sent:** Friday, September 18, 2015 4:30 PM  
**To:** Robichaud, Jeffery  
**Subject:** FW: regression calculations for Missouri nutrient criteria

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**From:** Osborn, Mark  
**Sent:** Friday, September 18, 2015 11:54 AM  
**To:** Bob Angelo ([angelo.bob@epa.gov](mailto:angelo.bob@epa.gov)); [delashmit.john@epamail.epa.gov](mailto:delashmit.john@epamail.epa.gov)  
**Cc:** Hoke, John

**Subject:** regression calculations for Missouri nutrient criteria

The attached files have calculations that were used in deriving screening levels for TN and TP, with Chl-a as a response variable. The regressions are based on yearly geometric means for individual lakes. The regressions are transformed one time using iteratively weighted least squares, as described in Helsel and Hirsch, on page 283.

Please let me know if you have any questions.

Mark Osborn

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